ENTOMOLOGICAL NEWS

AND

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COCOON HUNTING IN THE FALL.

By One of the Boys.

Our illustration of the *luna* moth carries us back to the days when we searched for cocoons among the fallen leaves and enjoyed the glorious Autumn weather and the ever beautiful tints of nature shown at this season of the year. There were three of us—all school boys and enthusiastic young naturalists—and we eagerly looked forward to Saturdays when we would have a holiday and hoped that it might not rain so that our expedition after cocoons could be undertaken. With our pockets full of beef sandwiches and a supply of potatoes and matches we sallied forth. The *luna* cocoon we were anxious to get, as it is not common, and for the tyro not an easy thing to find. The height of our ambition was *angulifera*, as we had already found *promethia*, *cecropia* and *cynthia*, but by no means despised *polyphemus*, which we found suspended, but never very many in a single hunt. *Cynthia* was common on the *Ailantus* trees in the city, and by fastening a penknife to a pole, so that we could cut and hook them off, we always had a plentiful supply of the spe-

cies. We easily found *promethia* by looking for the apparently curled and dried leaves on the spice-bush and sassafras and soon learned to detect cocoons and differentiate them from curled leaves at a glance. As we gained more experience and our eyes became sharper we could also detect *luna* and *angulifera* from the dried leaves on the ground under the hickory, persimmon and black-walnut when hunting for the former, and while looking under tulip-poplars for the latter. We also found *luna* under sweet-gum, but did not spend any time on its less common food-plants. Industry, patience and sharp eyes will enable any boy or girl to find these species after they fall to the ground with the leaves. Usually, however, the full-grown caterpillar crawls to the ground and will spin among the leaves between the earth and the bark just at the top of the ground or alongside of a stick or a piece of bark. *Cecropia* often has a habit of spinning on the elder stalk close to the ground.

There was a fascination about these tramps, and they gave us keen enjoyment. When noon arrived we were desperately hungry and sat around our fire toasting our fingers and roasting the potatoes and chestnuts. We did not confine our attention solely to insects, but enjoyed all nature. Minerals were collected and plants and animals observed. We usually returned home tired, but happy and enjoying our treasures and waiting with impatience for our cocoons to disclose their beautiful imagos.

———o———

NOTES ON EUROPEAN ENTOMOLOGICAL COLLECTIONS.

By Philip P. Calvert.

VII.—GENOA.

The Museo Civico di Storia Naturale di Genova is situated on an eminence in the public park, known as the Villetta di Negro, and commanding a view of that picturesque harbor which has won for the city the title of "La Superba." The Director is the Marchese Giacomo Doria, the Vice-director Dr. Raffaello Gestro, well known also as an authority on Coleoptera. Signor Leonardo Fea, the explorer of Burmah, is Assistant, especially in Entomology, and Signor Filippo Silvestri occupies himself with Myriapoda. Shortly after the writer's visit to the Museum, and

at his request Dr. Gestro most obligingly furnished an account of the entomological collections which it contains, and of which what follows is a translation.

GENERAL.

The collection of the Museo Civico di Storia Naturale di Genova is chiefly rich in Coleoptera, and is certainly richer than that of any other Museum in Italy. It had its origin in the material collected in Persia and in Borneo by the Marchese Giacomo Doria, and in a short time has attained an extraordinary development. To this has been added:

The collection of Carabidæ of Count Castelnau, purchased by the Marchese Giacomo Doria.

The collections of:—O. Beccari from the Sunda Islands and from New Guinea;

L. M. d'Albertis from New Guinea and Northern Australia;

O. Beccari, O. Antinori and V. Ragazzi from Abyssinia and Erythraea;

Marchese Giacomo Doria from Tunis;

L. Fea from Burmah and Tenasserim;

E. Modigliani from the islands of Nias, Engano, Mentawei and Sumatra;

Dr. L. Loria from southern New Guinea;

G. Bove from the Congo, Terra del Fuego and the Argentine Republic;

L. Balzan from Bolivia;

Bricchetti-Robecchi, v. Bottego and E. Ruspoli from Somalia.

These materials have acquired particular importance from their having been examined and described* by specialists, consequently the number of types contained in this Museum is very considerable.

The collection of insects from Burmah, made by Signor L. Fea, principally of Coleoptera, possesses the greatest importance from the number and variety of the species and from the great quantity of types which it contains. It is kept separate from the others.

Worthy also of particular mention is the collection of cave-dwelling insects, which presents extraordinary interest from the species recently discovered in the grottos of Liguria.

* Chiefly in the Annali del Museo Civico di Storia Naturale di Genova, now (September, 1896) in its thirty-seventh (seventeenth of the second series) volume. See the notices of Entomological Literature in this and the preceding volumes of the NEWS.—P. P. C.

COLEOPTERA.

Predominant among the Coleoptera, from their number and importance, are the species from the Malay Archipelago, from Papua and from Erythraea.

The families most richly represented are the following:

Cicindelidæ.

Carabidæ: Castelnau's collection and numerous types of Castlenau, Putzeys and Chandoir.

Dytiscidæ, and especially Gyrinidæ, with many types of Regimbart.

Staphylinidæ: types of Fauvel and Eppelsheim.

Pselaphidæ and Scydmænidæ, very rich.

Histeridæ: numerous types of Marseul, Lewis and Schmidt.

Cetonidæ: the Lomaptera group with types of Gestro.

Buprestidæ: many types of Kerremans and of Gestro.

Elateridæ: numerous types of Candéze.

Chrysomelidæ: types of Chapuis, Baly and Jacoby. The tribe of the Hispinæ is rich in Austro-Malayan species with many types of Gestro.

LEPIDOPTERA.

Species from the collections above cited as from New Guinea and described by C. Oberthür.

DIPTERA.

Various types of Rondani.

HYMENOPTERA.

The collection made by the Marchese G. Doria in Tunis and in Liguria is very rich; that of Formicidæ described by Mayr and Emery is of great value.

RHYNCHOTA.

Collection of P. M. Ferrari, composed principally of Ligurian species.

Among those from Papua, the Moluccas and the Malay Archipelago are many types of Signoret, Lethierry, Bergroth and Montandon.

ODONATA.

Those collected in Burmah by L. Fea, in Sumatra and other islands above mentioned by Dr. E. Modigliani, in New Guinea by O. Beccari and L. M. d'Albertis, and by the Italian expedition to Equatorial Africa, all described by Baron E. de Selys-Longchamps.

Species from Erythraea by V. Ragazzi.

The arranged collection of Coleoptera is contained in glass-topped drawers 28 x 37 centimetres, that of Lepidoptera and of Odonata in drawers 38 x 49 centimetres. The species are disposed in horizontal series with numerous specimens from many localities. Each specimen has a small pin-label bearing the names of the locality and collector and the date of capture. The types are distinguished by a pin-label. Labels for generic names are of different color from the others. Labels for specific names are white with a border variously colored according to the various parts of the world, and there is a special color for the Italian fauna.

Each specific label [on the bottom of the drawer] has a number which corresponds to a catalogue-slip on which are enumerated the specimens of each species with their respective localities and any other observations.

To these notes of Dr. Gestro may be added a few additional particulars from memoranda made by the writer at the time of his visit. In those parts of the collection which have been most recently arranged the specific labels of type specimens are written in red ink to more readily distinguish them. Labels for generic names have a black line-border, while the colors of the line-borders on the labels for specific names are green for North and South America, blue for Africa, yellow for Europe, red for Italy, violet for Australia and orange for Asia.

The Museo Civico di Storia Naturale di Genova is of comparatively recent origin and the building which it occupies is yet small, but it is the very modernity of this Museum, like that of the Musée d'Histoire Naturelle at Brussels,* which has made it possible to so carefully mark and catalogue each individual specimen, a task which the absence of data often renders impossible, or of doubtful value, in many of the older European entomological collections.

* See the NEWS for April, 1896, p. 97.

ADDITIONAL LIST OF INSECTS TAKEN IN ALPINE REGION OF MT. WASHINGTON.

By ANNIE TRUMBULL SLOSSON.

The NEWS (vols. v and vi) contains already three lists of insects taken by me in 1893, '94 and '95 on the summit of Mt. Washington. During two visits made to the mountain this present season, 1896, I captured over 260 species in the different orders, not included in my previous lists. Among these are several new species and others not hitherto recorded from this country. I am greatly indebted for assistance in preparing this list to Messrs. Coquillett, Liebeck, Davis, Ashmead, Fox, MacGillivray, Van Duzee, Aldrich and others.

COLEOPTERA.

Carabidæ.

Amara obesa *Say.*
Platynus sordens *Kirby.*
" bogemanni *Gyll.*
Harpalus herbivagus *Say.*

Dytiscidæ.

Hydroporus dichrous *Melsh.*
Coptotomus interrogatus *Fab.*

Gyrinidæ.

Gyrinus borealis *Aube?*
Dineutes nigrior *Roberts.*

Hydrophilidæ.

Helophorus angustulus *Mann.*
Philhydrus perplexus *Lec.*
Creniphilus digestus *Lec.*
Sphæridium scarabæoides *Linn.*
Cercyon anale *Payk.*
" pygmæum *Ill.*
Cryptopleurum minutum *Fab.*

Silphidæ.

Necrophorus vespilloides *Hbst.*
Clambus gibbulus *Lec.*

Pselaphidæ.

Ctenistes piceus *Lec.*

Staphylinidæ.

Quedius lævigatus *Gyll.*
Listotrophus cingulatus *Grav.*
Xantholinus obsidianus *Melsh.*
Stenus flavescens
Tachinus parallelus *Horn.*
" canadensis *Horn.*
Mycetoporus lucidulus *Lec.*
Oxyporus lateralis *Grav.*
Oxytelus sp. ?
Anthobium convexum *Fauv.*

Trychopterygidæ.

Trychopteryx aspera *Hald.*

Corylophidæ.

Sacium lugubre *Lec.*

Coccinellidæ.

Adalia frigida *Schn.*

Colydiidæ.

Lasconotus borealis *Horn.*

Cucujidæ.

Pediacus fuscus *Er.*

Cryptophagidæ.

Atomaria sp. ?

Nitidulidæ.

Carpophilus brachypterus *Say.*
Epuræa erichsonii *Reit.*
" immunda *Sturm.*
Nitidula rufipes *Linn.*
Ips vittatus *Say.*
Rhizophagus remotus *Lec.*

Byrrhidæ.

Byrrhus americanus *Lec.*

Elateridæ.

Microrrhagus subsinuatus *Lec.*
Megapenthes stigmosus *Lec.*

Lampyridæ.

Calopteron reticulatum *Fab.*

Cleridæ.

Trichodes nuttalli *Kirby.*

Cerambycidæ.

Hylotrupes ligneus *Fab.*
Rhagium lineatum *Oliv.*
Pogonocherus mixtus *Hald.*
Acanthocinus obsoletus *Oliv.*

Chrysomelidæ.

Donacia flavipes *Kirby.*
Hypolampsis pilosa *Ill.*
Haltica ignita *Ill.*

Melandryidæ.

Tetratoma tessellata *Melsh.*
Serropalpus barbatus *Schall.*
Orchesia gracilis *Melsh.*
Canifa pallipes *Melsh.*

Anthicidæ.

Anthicus scabriceps *Lec.*

Curculionidæ.

Sitones flavescens *Melsh.*
Apion sp. ?
Anthonomus signatus *Say.*
Anthonomopsis mixtus *Lec.*

Anthribidæ.

Gonotropis gibbosus *Lec.*
Eurymycter fasciatus *Oliv.*

DIPTERA.

* Lestremia leucophæa *Meig.*
Sciophila bifasciata *Say.*
" hirticollis *Say.*
" obliqua *Say.*
* Boletina sciarina *Staeg.*
Neoglaphyroptera winthemii *Leh.*
Rhymoza filipes *Lw.*
Dynatosoma pinguis *Lw.*
Sciara vulgaris *Fitch.*
Sciara ochrolabis *Lw.*
" abbreviata *Walk.*
Simulium invenustum *Walk.*
Dilophus breviceps *Lw.*
Chironomus aterrimus *Meig.*
" brunneus *Walk.*
" variabilis *Staeg.*
Tanypus annulatus *Say.*
" monilis *Linn.*
" n. sp.
Psychoda minuta *Bks.*
Erioptera chlorophylla O. S.
" caloptera *Say.*
Tipula angulata *Lw.*
" centralis *Lw.*
Rhyphus fenestralis *Scop.*
Asilus notatus *Wied.*
Microphorus n. sp.
Rhamphomyia gracilis *Lw.*
" setosa *Coq.*
" expulsa *Walk.*
Hilara trivittata *Lw.*
Saucropis superbiens *Lw.*
Gymnopternus frequens *Lw.*
Chilosia occidentalis *Willst.*
Melanostoma angustata *Willst.*
Chrysochlamys nigriceps
Syrphus umbellatarum *O. S.*
Sericomyia militaris *Walk.*
* Chalarus n. sp.
Pipunculus cingulatus *Lw.*
Hyalomyodes triangulifera *Lw.*
Admontia degeerioides *Coq.*
" floridensis *Town.*
Gymnopareira pilipennis *Fall.*
" n. sp.
Limnophora refusa *G-T.*
Hyetodesia abacta
" pylone *Walk.*
Anthomyia radicum *Linn.*
Scatophaga intermedia *Wied.*
Tetanocera costalis *Lw.*
Psila levis *Lw.*
Chyliza notata *Lw.*
Calobata pallipes *Say.*

* "Not before recognized from America," D. W. Coquillett.

Chætopsis ænea *Wied.*
Lonchæa nigra *Wied.*
" rufitarsis *Macq.*
Sapromyza 4-lineata
Scyphella flava *Linn.*
Octhera mantis *De G.*
Scatella stagnalis *Meig.*
Phortica n. sp.
Crassiseta costalis *Lw.*
" formosa *Lw.*
Oscinis pallipes *Lw.*
" coxendix *Fitch.*
Siphonella lævigata *Fall.*
Chlorops obesa *Fitch.*
" variceps *Lw.*
Lobioptera indecora *Lw.*
Leucopis simplex *Lw.*
Odontocera dorsalis *Lw.*
Limosina limosa *Fall.*
Phora fasciata *Fall.*

HYMENOPTERA.

Tenthredinidæ.

Trichiosoma triangulum *Kirby.*
Lyda slossonia *Mac G.* n. sp.
" borealis *Mac G.* n. sp.
Xiphydria alternata *Nort.*
Euura sp.
Pteromus integer *Say.*
" sp.
" sp.
Pachynematus pubescens *Marlatt.*
" extensicornis *Nort.*
" montivagus *Marlatt*
Lygæonematus erichsonii *Hartig.*
Pachyprotasis omega *Nort.*
Tentredo cinctitibiis *Nort.*
" inconspicua *Mac G.* n. sp.
" verticalis *Say.*
" secundus *Mac G.* n. sp.
" variegata *Nort.*
" signata *Nort.*

Cynipidæ.

Synergus lana *Fitch.*
Eucoila rubripes *Ashm.*
Anacharis marginata *Prov.*

Evaniidæ.

Aulacus sp.?

Ichneumonidæ.

Ichneumon caliginosus *Cr.*
" feralis *Cr.*
" humilis *Prov.*
" sagus *Cr.*
" tumidifrons *Cr.*
Amblyteles indistinctus *Prov.*
Phæogenes exiguus *Cr.*
" n. sp.
Phygadeuon lechevallieri *Prov.*
" n. sp.
Cryptus limatus *Cr.*
Hemiteles utilis *Nort.*
" n. sp.
Stibosceps mandibularis *Prov.*
Alexeter canaliculatus *Prov.*
Notomiris glabrosus *Davis*, n. sp.
Clepsiporthrus flavidus *Davis*, n. sp
Diaborus maculiventris *Ashm.*
Pimpla annulipes *Brulle* [n. sp.
Polysphincta erythropleura *Ashm.*,

Braconidæ.

Bracon suborbicularis *Ashm.*
" trifolii *Ashm.*
Chelonus electus *Cr.*
" fessus *Prov.*
Apanteles carpatus *Say.*
" cinctus *Prov.*
" xylina *Say.*
Microgaster carinata *Pack.*
Meteorus politus *Prov.*
Ameoplus terminalis *Ashm.*
Helcon occidentalis *Cr.*
Aphidius obscuripes *Ashm.*

Chalcididæ.

Haltichella xanticles *Walk.*
Eurytoma bolteri *Riley*
Megastigmus slossonæ *Ashm.*
Torymus ostensackenii *Ashm.*
Habrocytus thyridopterygis *Ashm.*
Rhopalicus triangularis *Ashm.*
Isocratus vulgaris *Walk.*
Pathyneuron altiscuta *How.*

Cryptophrymus coxalis *Ashm.*
Tridymus citripes *Ashm.*
Bothiathorax peculiaris *How.*
Eupelmis acaudus *Ashm.*
Tetrastichus sp. ?

Proctotrypidæ.

Megaspylus ambiguus *Ashm.*
Telenomus podisi *Ashm.*
Hoplogryon monticola *Ashm.*
Scelio opaca *Prov.*

Pompilidæ.

Pompilus tenebrosus *Cr.*

Pemphredonidæ.

Pemphredon concolor *Say.*
Passalæcus n. sp.

Crabronidæ.

Crabro pedicillatus *Pack.*

Eumenidæ.

Odynerus sp. ?

Andrenidæ.

Prosopis antennata var. ?
Halictus sp. ?

Apidæ.

Megachile montivagus *Cr.*

NEUROPTERA.

Chloroperla marginata *Bks.*
Hemerobius disjunctus *Bks.*
Psocus sp. ?

LEPIDOPTERA.

Heterocera.

Platarctia hyperborea *Curt.*
Dasychira rossii *Curt.*
Clisiocampa americana *Harr.*
Leucania impuncta *Harv.*
Sicya macularia *Harr.*
Corycia semiclarata *Walk.*
Petrophora prunata *Linn.*
Scoparia centuriella *S. V.*
Crambus sp. ?
Pyralid ?
" ?
Tortricid ?

PHYSOPODA.

Thrips sp. ?

HEMIPTERA.

Heteroptera.

Sciocoris sp. ?
Banasa dimidiata *Say.*
Cymus claviculus *Hahn.*
" luridus *Stal.*
Lygæus kalmii *Stal.*
Camptobrochis grandis *Uhl.*
Capsid ?
" ?
Triphleps insidiosus *Say.*
Coriscus sp. ?
Pygolampis pectoralis *Say.*

Homoptera.

Encheopa binotata *Say.*
Telamona reclivata *Fitch.*
Carynota marmorata *Say.*
Stobæra tricarinata *Say.*
Idiocerus provancheri *VanD.*
Bythoscopus fenestralis *Fitch.*
" variabilis *Fitch.*
Cicadula variata *Fall.*
Typhlocyba bifasciata *G.* and *B.*
" querci *Fitch.*
" sp. ?

ARACHNIDÆ.

Aranœ.

Pardosa montana *Em.*
Pisaura undata *Htz.*
Micaria montana *Em.*
Phidippus sp. ? (young).
Drapetisca socialis *Blk.*
Cornicularia sp. ?
Tmeticus sp. ?
Dyctina sublata *Htz.*

THYSANURA.

Isotoma viridis *Bour.*
" " riparia *Nic.*
[the I. sp. of former list]
Isotoma glauca montana *MacG.*
[the I. sp. of former list]
Tomocerus sp. ?
Schoturus sp. ?

A SUMMER TOUR IN THE DARK CONTINENT.

By Prof. ANGELO HEILPRIN.

(In Philadelphia *Public Ledger*.)

"In my first letter the fact was broadly stated that the dirt and filth of Tangiers did not come up to my expectations, a disappointment that was more pleasant than otherwise. Some parts of the city were in fact strikingly clean, and I am not sure but there are a number of areas of equal population in both New York and Philadelphia which would compare unfavorably with very nearly the worst parts of this city of the Moors. I had brought with me a generous supply of insect annihilators and irritants, but to this day, after making a goodly round of territory, the packet remains in the same condition as when it was put up in Philadelphia—one of the impedimenta of travel yet to be proved a non-surplus.

"Thus far I have not seen a flea or associate insect of any kind; that they are around and about may be taken for granted, but it is, nevertheless, a consolation to the traveler, and certainly conducive to his happiness, that they take a different route—at least they did in our case—from that which he travels. Of mosquitoes we have both seen and heard, but also in very emaciated numbers, and not sufficiently to require the assistance of the great net which I had prepared for their reception. Altogether the insect fauna has proved itself strikingly deficient, and, had one in mind the object of collecting for a museum of natural history, the result would surely be disappointing. Large ants here and there speed merrily along the roadway or crawl through what might properly be called an apology for luxuriant grass, but they are neither larger nor more ferocious than the common mountain ant of Pennsylvania, nor did they appear in the numbers of the latter species. Of centipedes we have not seen a trace. Thus it would seem that the question of vermin need not *necessarily* enter into the calculations of a journey into Morocco. That the experiences of others have been very different from our own is quite certain, and that they will continue different for still others in the future is equally certain, but I state the simple facts as they came to us, as they doubtless will come to others who follow in our footsteps."

ABERRANT FORM OF MELITÆA COLON Edwards.

By B. L. CUNNINGHAM, Fort Klamath, Oregon.

Expanse 50 mm.; antennæ 9 mm., yellow. Fore wing, upperside, black; a row of red spots cross the wing on the border as in the type of this species; one large yellow tinged white spot at end of cell and one smaller in the middle of cell; also a row of whitish yellow spots inside border row. Hind wing, upperside, all black, except a row of red spots along the edge. Front wing, lowerside, ground color red; a row of six black crescents crossing wing 4 mm. from the edge. In the central cell the cross-lines have been wonderfully changed. On the right wing, commencing at the left, these lines have been changed to letters, as follows: **I H S.** These letters are coal-black and show up *distinctly* on the red "back ground." On left wing these letters are reversed, but are just as distinct. We are all familiar with the Latin words, "Jesus Hominum Salvator" (Jesus, the Savior of Men), and the abbreviation of these words, I. H. S., appearing on the wing of a butterfly is to me a wonderful thing, and worthy of note.

Hind wing, lowerside, black; a row of red spots along border, followed inside by a black band, then another row of red spots, followed in turn by another wider band of black; inside of this the red patch of *colon* proper has been broken into spots surrounding four black spots. The base of the wing is black; veining all black.

It will be seen from this that *all* the white on the lowerside has been turned to black, and also that it has turned to black on the upperside of hind wing, and that the upperside of the front wing has lost most of its red spots and some of its white ones. It is a very unique specimen, and is now in the museum at Tring, England, where the gentleman, to whom I sold it, placed it for safe keeping. It was captured at an altitude of 4300 feet, a few miles from Fort Klamath, Oregon, in July, 1893; at that time there were a few snow banks among the small pines where there was little or no sunshine; possibly the pupa from which this fly hatched was under one of these snow banks, and the colors changed by the action of the cold. The color of the antennæ is also changed from normally red or brown to yellow.

I have taken three aberrant *Melitæa*, one *colon*, one *rubicunda* and one of which I do not know the name. I have also taken two aberrant *Argynnis*, both *erinna*, one of which was described by Prof. Owen in the NEWS (vol. iv, p. 246), but none of which were so curious as this *colon*, which is a ♂.

ENTOMOLOGICAL NEWS.

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PHILADELPHIA, PA., NOVEMBER, 1896.

THE financial depression of the past two years has been universally felt, and journals devoted to entomology are perhaps no exception. Former subscribers have written us that they really could not afford to pay our small subscription price as they needed every cent for absolute necessities. We feel this all the more, as in the past every penny of surplus has gone into improvements, increased number of pages and illustrations. We hope our friends will do their utmost to help swell our subscription lists as we would dislike to raise the price of the NEWS, and are willing to give a two-dollar journal for a dollar if we possibly can. We want an "honest dollar" in return, and after the "gold bugs" and the "silver bugs" have had their fracas and decided on the supremacy of one or the other, we hope ordinary every-day insects may settle down to a comfortable prosperity.

TERMITES bored through the lead pipe and the cotton and jute insulating envelope enclosing the Tonkin cable in less than a year. M. Bouvier, who has investigated the matter and reported on it recently to the Académie des Sciences, recommends that the cotton and jute be steeped in a solution of sulphate of copper as a protection.

DEPARTMENT OF ECONOMIC ENTOMOLOGY.

Edited by Prof. JOHN B. SMITH, Sc.D., New Brunswick, N. J.

Papers for this department are solicited. They should be sent to the editor, Prof. John B. Smith, Sc.D., New Brunswick, N. J.

(Continued from page 247.)

Proceedings of the Association of Economic Entomologists.—Mr. A. H. Kirkland gave some "Notes Concerning Insecticide Experiments." He spoke particularly of arsenate of barium, with which they had experimented in Massachusetts for the first time this year, and in his opinion it is the best arsenical compound that has been yet used against the Gypsy moth. Some remarks were made upon this insect and the chemical and other tests upon the nature of its digestive secretions, the object being to ascertain, if possible, why arsenite in the ordinary forms exercised so feeble an effect upon this insect. It was from the information thus obtained that the arsenate of barium was tried, and it seems to have been successful. The substance is not yet in shape for recommendation in ordinary use, and the method of preparing it is somewhat complicated.

Afternoon Session.—Mr. C. L. Marlatt spoke of "Comparative Tests with new and old Arsenicals on Foliage and Larvæ." As illustrating the importance of the matter Mr. Marlatt stated that at the present time 2000 tons of Paris green per year were sold for insecticide purposes! He detailed a series of experiments with Scheeles' green, the plain arsenate of copper, Paris or Schweinefurth's green, or aceto-arsenite of copper, with London purple, with arsenate of lead and with arsenite of lead. The effect of the addition of lime to these materials was discussed and was generally found to be beneficial. Mr. Marlatt seems to favor the arsenite of lead, a preparation not heretofore used as against insects and not commercially manufactured on a large scale. He also urges the use of the simple arsenite of copper or Scheeles' green in place of the ordinary Paris green. It contains quite as much arsenic, but is very much more finely divided, remains in suspension much better, can be more completely distributed, and is more rapidly effective. Further, it is very decidedly cheaper, and this is a matter of very considerable importance to the farmer. Mr. Marlatt further suggested that it was not always possible to judge of injury caused by the arsenites immediately after their application. In some cases no immediate effect was perceptible, and it was not until days or weeks afterward that evidence of the action of the poison upon the leaves became obvious. It usually resulted in a premature maturing on ripening of the foliage. This paper was discussed by a number of the members, principally in the direction of questioning Mr. Marlatt and in recounting experiences bearing out or contradicting his statements. The most interesting point was the assertion by Messrs. Kirkland and Forbush, that the addition of lime rather increased injury to foliage in their experiments, and certainly did not prevent it as com-

pared with the application of the pure arsenite. This seemed to be contrary to the general experience, and it was suggested that these might be due to the fact that an excess of lime was used which resulted in disintegrating the poison instead of simply neutralizing the free arsenic.

Mr. Howard read a paper on "The Futility of Trunk and Crown Washes for the Elm Leaf Beetle." In New Haven, during the season of 1895, the kerosene emulsion was made on a large scale by the city authorities, and was given away to all who applied for it, for the purpose of washing the trunks of their trees, to kill larvæ and pupæ of the Elm Leaf Beetle. The same material was also applied at the base of the tree to kill the pupæ, which were usually found there in very considerable numbers. In order to examine what effect this method of treatment has produced, Mr. Howard examined the state of affairs in New Haven during the present year, and found that absolutely no good effect had been produced, but that by spraying protection could be obtained. In some cases he found handsful of pupæ and larvæ ready to pupate in the crotches of trees, and he detailed a series of observations to prove that the larvæ by no means all descened the trunks of the trees to pupate at the base. In his opinion they drop from the branches and from the leaves and pupate everywhere on the surface of the ground, or wherever else they can find shelter. He believes that only the smallest proportion of the larvæ descend the trunk and come to the base of the tree, and, while destroying those that do come there, is of course a good practice, yet it will not have sufficiently beneficial result.

Mr. C. L. Marlatt read a paper on "Insecticide Soaps." He rehearsed the difficulties in finding what sort of material was used in what was called Whale Oil Soap, and his efforts to induce manufacturers to make a really good article for a reasonable price. A large proportion of the soaps on the market apparently contain very little, if any, fish oil, and failures are apt to result from the use of materials of this kind. Among the requirements of a satisfactory soap is that it should be uniform, that it should remain liquid when dissolved in water, and should not jelly when cold at a strength of two or three pounds in one gallon of water. Very few of the soaps on the market fulfill these conditions, although several that were made for him proved satisfactory. The Leggett soap answered all the requirements. Mr. Marlatt urged attempts to obtain the manufacture of a soap of uniform and reliable strength at a price reasonable to both manufacturer and consumer. In the discussion that followed the general question of the action of insecticides was taken up and also the susceptibility of insects to poisons.

Mr. Lintner, speaking to Mr. Howard's paper, reasserts his belief in the usefulness of trunk and crown washes, and is not yet convinced that much the largest proportion of larvæ do not crawl to the trunk and down it to pupate. He repeated certain observations made by him tending to show that the larvæ do not drop from the branches voluntarily, or under ordinary circumstances. He does not believe that Mr. Howard's obser-

vations quite prove his case. In the matter of the spread of the insect it has invaded new parts of Albany and has extended north of Troy for some distance. There is no doubt that at Albany there are two distinct broods of the insect.

Mr. Smith stated that his observations and conclusions rather agreed with those of Mr. Howard, and as to the number of broods he had repeated his observations at New Brunswick during the present year and can find only a single brood. In fact, weather conditions were such that even this brood was small, and did less damage than usual, while very few of the larvæ that changed to pupæ ever changed to beetles; much the greatest number of pupæ were killed by cold, wet weather. The indication seemed to be that there will be a small number in New Brunswick next year. Concerning the fish oil soaps had much the same experience as that recorded by Mr. Marlatt, and one of the most discouraging features of the fight against the San José scale was the fact that the soaps used did not seem to be effective even when thoroughly applied. The reason for that was that most of the fish oil soap was very inferior and much of it probably did not contain fish oil at all. For that reason he has rather urged the farmers to make their own soaps, and has given a formula that has proved successful in actual practice. He had also used the Leggett soap in experimenting and had found it entirely reliable and satisfactory. In one case where some young trees were treated with it for the San José scale, he had received word from the owner of the orchard within a few days that no trace of the scale was to be found upon the trees this season.

Referring to some suggestions that had been made as to the dislike of insects to feed upon poisoned foliage he had found this to be true of the Elm Leaf Beetle, and the slow action of some of the poisons may be explained by the fact that the insects do not eat until they are forced to. Mr. Kirkland said that he had not noticed that the larvæ of the Gypsy moth hesitated about eating poisoned foliage. No choice seemed to be exercised. In some experiments the poisoned foliage was eaten in preference to that which was not poisoned, while in other experiments the reverse was the case. Where alternate leaves were poisoned it was usual to have them all eaten equally; so where parts of the leaf only were poisoned all parts of the leaf would be equally eaten. Mr. Johnson had observed of some insects that they refused to feed for some time upon poisoned foliage. Mr. Webster had found that the Bordeaux mixture was useful in keeping off the blister beetles, species of *Epicauta*, and, referring to what had been said of injuries caused by insecticides, he stated that this was a matter that would have to be rather closely studied in every locality. One farmer in Ohio had twice applied pure kerosene to his trees to kill the San José scale. The treatment was entirely effective, and the trees during the present Summer are in fine condition. The application on the trees was made in December or January, and again in March. He had expected that the trees would be killed and had warned

the fruit-grower of his belief, but so far as he is able to see now there has not been the slightest trace of injury from the application. He thinks much of the difficulties with insectices are due to the farmer rather than to the poison used. We always know what we recommend, but we never know what the farmer actually does. The result is that reports are conflicting, and we are sometimes at a loss to explain results.

Mr. Fletcher spoke of the importance of a knowledge of the action of the insecticides on all the insects and suggested that it was not always safe to recommend applications for one insect simply because they had proved successful on another. He was much surprised to hear from Mr. Kirkland that lime did not have the effect of reducing injury from the arsenites, and thinks that is a point that should be carefully examined. He had been recommending lime equal in weight to the poison used.

By an arrangement with the Society for the Promotion of Agricultural Science, a joint meeting was held at 4 o'clock for the reading of papers interesting to both sections. Before this meeting Mr. A. D. Hopkins read a paper on "Pollen Distributing Insects Observed on Flowers of Timothy and Red Clover." Mr. Hopkins described the structure of the clover flower and the location of the pollen, and from his observations it appears that many more insects than have usually been credited, are able to fertilize the clover flower. He believes that not only the bumble-bees, but even short-tongued bees are useful, and he described the mechanism for the release and discharge of the pollen. Mr. Smith suggested that the case was not proved by the observations made, unless it was assumed that the flower of the clover is self-fertile. If it is, then Mr. Hopkins' observations indicate that any insect that is capable of producing the release of the pollen is able to pollenize the clover flower. If it requires the pollen from another head, the proof is not so good.

It may be interjected that this question was somewhat discussed by the members, informally, particularly with reference to the origin of the belief that bumble-bees were the chief agents, or perhaps the sole agents in fertilizing the flowers of red clover. Also some question was made as to the truth of the commonly related story of the clover and bumble-bees in Australia. There seems to be no doubt that the story of the importation of bumble-bees in Australia is true, but no one was able to refer to any scientific account of the introduction, or to any record of accurate observations made in the matter. It seemed also that the set of clover seed depended upon many circumstances, and that sometimes where the clover was apparently poor, the heaviest set of seed was found. It was suggested that in such cases the florets of the clover head were less developed and much shorter than they would be normally, and that this brought them within range of the shorter tongued bees and other insects.

Mr. Howard read, before the joint session, a biographical sketch of Dr. C. V. Riley, which it is impossible to abstract.

(To be continued.)

Notes and News.

ENTOMOLOGICAL GLEANINGS FROM ALL QUARTERS OF THE GLOBE.

[The Conductors of ENTOMOLOGICAL NEWS solicit, and will thankfully receive items of news, likely to interest its readers, from any source. The author's name will be given in each case for the information of cataloguers and bibliographers.]

To Contributors.—All contributions will be considered and passed upon at our earliest convenience, and as far as may be, will be published according to date of reception. ENTOMOLOGICAL NEWS has reached a circulation, both in numbers and circumference, as to make it necessary to put "copy" into the hands of the printer, for each number, three weeks before date of issue. This should be remembered in sending special or important matter for certain issue. Twenty-five "extras" without change in form will be given free when they are wanted, and this should be so stated on the MS. along with the number desired. The receipt of all papers will be acknowledged.—ED.

"Flee!" cried she. "You mean fly, don't you?" "Never mind what insect I mean; just git. Pa's coming."

Prof. JOHN B. SMITH's fine work on Economic Entomology is completed and now on sale; it is a work that every entomologist should have, especially beginners. See Entomological Literature, No. 41, this issue.

Dr. GARRY DEN. HOUGH, of New Bedford, Mass., is studying the very difficult Dipterous family Muscidæ and would be pleased to receive material for study. He also desires other Diptera by purchase or exchange.

ASYMMETRY IN BUTTERFLIES.—Turning over some old letters yesterday I came across one by Mr. Sydney Webb, of Dover, England, containing some interesting statistics regarding asymmetry in European Lycænidæ. The letter is dated Jan. 14, 1885, and gives an enumeration of the specimens of five species in the cabinet of the writer, showing the proportion symmetrical and asymmetrical on the underside, thus:

	Symmetrical	Assymmetrical	Totals
Chrysophanus phlæas . . .	2	4	6
Lycæna corydon	20	40	60
" *adonis*	2	18	20
" *ægon*	15	14	29
" *alsus*	6	10	16
	45	86	131

Mr. Webb adds: "These undersides are chiefly asymmetrical through spots being wanting or causing streaks. The specimens with additional ocelli are much more rare." This subject appears by no means to have received the attention it merits, and I will venture to suggest that those who have large series of Lycænidæ, Satyridæ, Nymphalidæ, etc., might favor us with some further statistics. Particularly, it should be ascertained which species are not frequently asymmetrical, whether these are equally

so in all localities, and whether the development of the markings is in any species less on the average one side than on the other.—T. D. A. COCKERELL.

THE IMITATIVE FACULTY OF CATOCALA CONCUMBENS.—A few years ago, while collecting butterflies on a road near Manchester, N. H., I noticed a fine specimen of *Catocala concumbens* resting on a telegraph-pole. On inspecting the pole more closely I found four more specimens of the same species. I examined the tree-trunks and fence-rails in the neighborhood, but failed to find others, but on almost every telegraph-pole for a quarter of a mile I found from one to ten of these common moths. Every year since that time I have taken this species on these same poles, but none could be found on the neighboring tree-trunks. This year a lot of new telephone-posts were put up beside the old poles, but never have I found an insect on the new posts. May it not be that this moth, accustomed by natural selection to find its mate of this peculiar gray color, chooses a post of a similar color on which to alight? This would be a possible explanation of the selection of these particular poles for a resting place.—EDWARD WINSLOW CROSS.

Identification of Insects (Imagos) for Subscribers.

Specimens will be named under the following conditions: 1st, The number of species to be **limited to twenty-five** for each sending; 2d, The sender to pay all expenses of transportation and the insects to become the property of the American Entomological Society; 3d, Each specimen must have a number attached so that the identification may be announced accordingly. Exotic species named only by special arrangement with the Editor, who should be consulted before specimens are sent. Send a 2 cent stamp with all insects for return of names. **Please put date of capture and exact locality on each specimen.** Before sending insects for identification, read page 41, Vol. III. Address all packages to ENTOMOLOGICAL NEWS, Academy Natural Sciences, Logan Square, Philadelphia, Pa.

Entomological Literature.

Under the above head it is intended to note such papers received at the Academy of Natural Sciences of Philadelphia pertaining to the Entomology of the Americas (North and South). Articles irrelevant to American entomology, unless monographs, or containing descriptions of new genera, will not be noted. Contributions to the anatomy of insects, however, whether relating to American or exotic species will be recorded.

(The Associate Editor, in re-assuming charge of the preparation of these monthly summaries of Entomological Literature, desires to express not only his own thanks, but also, he believes, those of the readers of the NEWS, to Mr. William J. Fox, who has so acceptably performed this task for the journal from June, 1895, until Oct., 1896.—P. P. C.).

1. ZOOLOGISCHER ANZEIGER, No. 511.—On the morphology of the segmental appendages in insects and myriapods, C. Verhoeff.—Sept. 14, 1896.—On the morphology of the segmental appendages of insects and myriapods (concl.), C. Verhoeff. The termination of the vessels and

the corpuscles of Kowalevsky in the Scolopendridæ, O. Dusboscq.——Sept. 28, 1896.—Contribution to the knowledge of water-mites, A. Protz, figs.

2. THE CANADIAN ENTOMOLOGIST. London, Ont., September, 1896.—A house-infesting spring-tail (*Lepidocyrtus americanus* n. sp.), C. L. Marlatt. Still another *Aphilanthops*, T. D. A. Cockerell. New Coccidæ from Massachusetts and New Mexico, ibid. A summary of the members of the genus *Chilosia* Meig., in North America, with descriptions of new species, W. D. Hunter. A new *Pulex* from Queen Charlotte Islands, C. F. Baker. Notes on saw-fly larvæ, H. G. Dyar. *Agronoma* again, J. B. Smith. Additions and corrections to my 1894 list of Winnipeg butterflies, with notes for the season of 1895, A. W. Hanham.——October, 1896.—Some notes on insect enemies of trees, A. D. Hopkins. Some new Nematids, C. L. Marlatt. Association of Economic Entomologists: Eighth annual meeting, Buffalo, N. Y., Aug. 21–22, 1896. Notes on Coleoptera —No. xii, J. Hamilton. Miscellaneous notes: *Stagomantis carolina*, *Gonatista grisea*, *Acanthosoma cruciata*, *Trichopepla semivittata*, *Libythea bachmani*, *Papilio philenor*, W. S. Blatchley.

3. THE ENTOMOLOGIST. London, September, 1896.—Silk-producing Lepidoptera (cont.), A. Wailly. Notes on the synonymy of Noctuid moths (cont.), A. G. Butler.——October, 1896.—Should the formation and arrangement of a collection of insects be made subservient to the elucidation of scientific problems?, W. H. Bath. Uniformity in pinning and setting Lepidoptera, W. Tunstall. The androconia of *Callidryas florella*, J. C. Rickard. New bees of the genus *Melissodes*, T. D. A. Cockerell. Fungi or androconia, J. B. Smith.

4. BULLETIN OF THE ILLINOIS STATE LABORATORY OF NATURAL HISTORY, vol. iv, article 11.—A check-list of the Coccidæ, T. D. A. Cockerell.

5. ENTOMOLOGISCHE NACHRICHTEN, xxii, 17, 18. Berlin, September, 1896.—The Ethiopian Limacodidæ of the Berlin Museum, F. Karsch.

6. PROCEEDINGS AND TRANSACTIONS OF THE ROYAL SOCIETY OF CANADA (2), i, section iv. Ottawa, 1895. Received Sept. 22, 1896.—Presidential Address: Practical Entomology, J. Fletcher.

7. MATHEMATISCHE UND NATURWISSENSCHAFTLICHE BERICHTE AUS UNGARN, xii Berlin and Budapest, 1895. Received Sept. 22, 1896.—Theridioidæ of the spider fauna of Hungary, Ladislaus Kulczynski.

8. HISTOIRE PHYSIQUE, NATURELLE ET POLITIQUE DE MADAGASCAR publiée par Alfred Grandidier, xxiii.—Histoire naturelle des Orthopteres, 1re partie Blattides et Mantides par H. de Saussure et Zehnter, 39e Fascicule. Paris, MDCCCXCV, pp. xvi, 233, iv, 10 pls.

9. REVUE GENERALE DES SCIENCES. Paris, Aug. 30, 1896.—Notice of S. Scudder's "Revision of the American fossil cockroaches, with descriptions of new forms," F. Meunier.

10. LEPIDOPTERA INDICA. By F. Moore. Part xxv. London, L. Reeve & Co., 1896. Received September 22.—Subfamily Nymphalinæ, group Potamina, pp. 3–24, pls. 191–198.

11. NOTES FROM THE LEYDEN MUSEUM, xvii, No. iv. Leyden, June 9, 1896.—Bornean Lucanidæ (two papers), C. Ritsema Cz. On the genus *Cerobates* Schh. and description of some new species, Dr. A. Senna.

12. THE ANNALS AND MAGAZINE OF NATURAL HISTORY. London, September, 1896.—Necrophagous Diptera attracted by the odor of flowers, E. E. Austen. Description of a new species of Satyrid butterfly from Costa Rica, H. G. Smith [*Oxeoschistus cothonides*].——October, 1896.—The development of a Termite—*Eutermes* (*Rippertii?*), H. McE. Knower (reprint from Johns Hopkins Univ. Circ. June, 1896). Contributions from the New Mexico Biological Station—I. Descriptions of new Bees collected by Prof. C. H. T. Townsend in the State of Vera Cruz, T. D. A. Cockerell. Some observations on spermatogenesis in spiders, J. Wagner (from Zool. Anz. April 27, 1896).

13. BIOLOGIA CENTRALI-AMERICANA. Part cxxx. London, June, 1896.—Arachnida-Araneidea, pp. 185–192, O. P. Cambridge. Coleoptera, vol. iii, pt. i, pp. 529–552, pl. xxiii, G. C. Champion. Id., vol. iv, pt. 6, pp. 129–144, W. F. H. Blandford. Hymenoptera, vol. ii, pp. 385–392, P. Cameron. Rhynchota Homoptera, vol. ii, pp. 161–168, pl. x, W. W. Fowler. Diptera, vol. ii, pp. 305–312, F. M. van der Wulp.

14. BULLETIN 44, WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION. Morgantown, W. Va., April, 1896.—Insects injurious to farm and garden crops. The character of the injury. The insect causing it. The remedy. Briefly and plainly stated, A. D. Hopkins and W. E. Rumsey.

15. SOCIETAS ENTOMOLOGICA, Zürich-Hottingen, Sept. 15, 1896.—A hunt for Noctuids in the snow, B. Slevogt.——October 1, A cheap oven for preparing caterpillars, Dr. L. Heissler, figs.

16. TRANSACTIONS AND ANNUAL REPORT. MANCHESTER MICROSCOPICAL SOCIETY, 1895.—Some insect pests, A. T. Gillanders. The organs and function of reproduction in the Insecta, F. Paulden.

17. PROCEEDINGS OF THE NATURAL SCIENCE ASSOCIATION OF STATEN ISLAND [New Brighton], Sept. 12, 1896.—Notes on Staten Island butterflies, W. T. Davis.

18. PROCEEDINGS AND TRANSACTIONS OF THE CROYDON MICROSCOPICAL AND NATURAL HISTORY CLUB, Feb. 19, 1895, to Jan. 21, 1896.—The protective methods of certain larvæ, E. Lovett. Notes on the house-cricket (*Acheta domestica*), C. H. Goodman.

19. IL NATURALISTA SICILIANO. Palermo, Sept. 1, 1896.—Studies on the genera *Alaocyba*, *Torneuma* and *Amaurorrhinus*, J. Croissandeau, 5 pls.

20. NATURE. London, Sept. 17, 1896.—Specific characters among the Mutillidæ, T. D. A. Cockerell.

21. THE ENTOMOLOGIST'S RECORD. London, Sept. 15, 1896.--Neuration in the Lepidoptera: the study of the wings, neuration, shapes, etc., A. Quail, 1 pl. (cont.). Mimicry—v. The origin of leaf markings as a mimetic pattern, J. W. Tutt.——October, 1896.—Mimicry v (cont. from September number). Notes on *Apions* and their larvæ, C. Morley.

22. REPORT OF THE SIXTH MEETING OF THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, held at Brisbane, Queensland, January, 1895.—An undescribed species of *Charon*, with notes on the metamorphosis of the first pair of ambulatory legs into a physiological pair of feelers, Dr. J. Lauterer, 1 pl.

23. NATURWISSENSCHAFTLICHE RUNDSCHAU. Braunschweig, Sept. 26, 1896.—[Summary of] R Heymons: On the reproduction and develment of *Ephemera vulgata* L., K. On P. Marchal's propagation and development of social wasps, R. v. Hanstein.

24. BIOLOGISCHES CENTRALBLATT. Leipsic, Sept. 15, 1896.—On the presence of "Schuppen-balgen" in Lepidoptera, Dr. A. Spuler, figs.

25. SITZUNGSBERICHTE DER PHYSIKALICH-MEDICINISCHEN SOCIETAT IN ERLANGEN, 26 Heft, 1894–1895.—On the scales of Lepidoptera, A. Spuler.

26. TRANSACTIONS AND PROCEEDINGS OF THE NEW ZEALAND INSTITUTE, 1895, vol. xxviii. Wellington. Issued June, 1896.—New Zealand Diptera, P. Marshall, three papers, 10 pls. Further Coccid notes: with descriptions of new species and discussions of questions of interest, W. M. Maskell, 8 pls. Contributions towards a monograph of the Aleurodidæ, a family of Hemiptera-Homoptera, id., 12 pls. On New Zealand Cicadidæ, W. F. Kirby. On the habits of New Zealand ants, W. W. Smith. On the construction of the comb of the hive bee, C. Phillips.

27. PSYCHE. Cambridge, October, 1896.—The species of *Nemobius* found in North America, S. H. Scudder. Notes on the Winter insect fauna of Vigo County, Indiana—viii, W. S. Blatchley. Some additional species of *Prosapis*, T. D. A. Cockerell.

28. BERICHTE DES NATURWISSENSCHAFTLICHEN VEREINS ZU REGENSBURG, v, 1896.—The German Pterophorina, systematically and biologically treated, Dr. O. Hofmann, 3 pls.

29. TIJDSCHRIFT VOOR ENTOMOLOGIE, xxxviii, 2–4. The Hague, December, 1895, March, 1896.—A noteworthy Javan Tachinid, F. M. van der Wulp, 1 pl. On compound stigmata in Dipterous larvæ, with a contribution on the metamorphosis of *Hydromyza livens*, Dr. J. C. H. de Meijere, figs. Systematic description of the Thysanura found in Holland, Dr. J. T. Oudemans, figs. Attempt at an analytical table for the genus *Cryptocephalus*, A. F. A. Leesberg.

30. JAHRESHEFTE DES VEREINS FUR VATERLANDISCHE NATURKUNDE IN WURTTEMBERG, lii. Stuttgart, 1896.—Synopsis of the German Hemiptera Heteroptera, family Capsidæ, Dr. T. Hüeber.

31. VERHANDELINGEN DER KONINKLIJKE AKADEMIE VAN WETENSCHAPPENITE AMSTERDAM (2), v, 2, 1896.—On gall-formation and alternation of generations in *Cynips calicis* and on the *circulans* galls, M. W. Beijerinck, 3 pls.

32. ANNUAIRE DU MUSEE ZOOLOGIQUE DE L'ACADEMIE IMPERIALE DES SCIENCES DE ST. PETERSBOURG, 1896, No. 3.—Revision of the Eurasiatic species of the genus *Abia* Leach, A Semenow. Miscellanea scorpiologica, A. Birula. Catalogue of the species of the subfamily Celyphidæ, G. Jacobson.

33. THE AMERICAN NATURALIST. Philadelphia, October, 1896.—A new character in the Colobognatha, with drawings of *Siphonotus*, O. F. Cook, 1 pl.

34. PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF WASHINGTON, iii, 5, Oct. 6, 1896.—C. V. Riley, with portrait. Additional notes on the insect guests of the Florida land tortoise, H. G. Hubbard. Rhopalosomidæ, a new family of fossorial wasps, W. H. Ashmead. A coleopterous enemy of *Corydalis cornuta*, L. O. Howard. Some insects which brave the dangers of the pitcher-plant, H. G. Hubbard. On the distribution of certain species of *Mytilaspis*, id. A new dipterous genus related to *Gnoriste*, D. W. Coquillett, fig. Annual address of the President—The phylogeny of the Hymenoptera, W. H. Ashmead.

35. PHYSIKALISCHE ABHANDLUNGEN DER KONIGLICHEN AKADEMIE DER WISSENSCHAFTEN ZU BERLIN AUS DEM JAHRE, 1895. Received Oct. 13, 1896.—The segmentation of the insectan body, Dr. R. Heymons, 1 pl.

36. PROCEEDINGS OF THE U. S. NATIONAL MUSEUM, No. 1096. Washington, 1896.—New species of North American Coleoptera of the family Scarabæidæ, M. L. Linell.——No. 1098.—1896. List of the Lepidoptera collected in East Africa, 1894, by Mr. William Astor Chanler and Lieut. Ludwig von Höhnel, W. J. Holland.

37. FOURTH ANNUAL REPORT OF THE OHIO STATE ACADEMY OF SCIENCE (place of publication and date not given).—Third report on the Odonata of Ohio, D. S. Kellicott.

38. THE TRANSACTIONS OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1896, pt. iii, Sept. 30, 1896.—On the Diptera of St. Vincent, West Indies, Prof. S. W. Williston (Dolichopodidæ and Phoridæ by Prof. J. M. Aldrich), 7 pls.

39. JOURNAL OF THE NEW YORK ENTOMOLOGICAL SOCIETY, September, 1896.—The North American species of *Nemobius*, S. H. Scudder. Impressions received from a study of our North American Rhopalocera,

H. Skinner, M.D. Description of the larvæ of some Heteromerous and Rhynchophorous beetles, H. F. Wickham, 1 pl. The life-history of the Florida form of *Euclea delphinii*, H. G. Dyar, 1 pl. New species of American Heterocera, W. Schaus. Descriptions of two Noctuid larvæ, H. G. Dyar. Description of a new moth, W. Beutenmüller, fig.

40. THE ENTOMOLOGIST'S MONTHLY MAGAZINE. London, October, 1896.—Suggestions respecting the use of albo-carbon (impure naphthaline), H. G. Knaggs, fig. New North American bees, T. D. A. Cockerell. Gum arabic versus tragacanth for carding insects, G. C. Champion. Notes on Coccidæ, W. M. Maskell. On *Plagithmysus:* a Hawaiian genus of Longicorn Coleoptera, D. Sharp.

41. ECONOMIC ENTOMOLOGY FOR THE FRUIT-GROWER, AND FOR USE AS A TEXT-BOOK IN AGRICULTURAL SCHOOLS AND COLLEGES. By J. B. Smith, Sc.D. (Philadelphia, J. B Lippincott Co.).—This is a work of four hundred and sixty-six pages, and has four hundred and eighty-three illustrations. The book needs to be seen to be appreciated, and we may best convey an idea of it by giving the table of contents. Part first treats of the structure and classification. The anatomy of the various parts of the body are described, as well as an account of the digestion, circulation, respiration, nervous and reproductive systems. Growth and metamorphosis are also treated in this chapter. Part two comprises the general classification and the various orders are exhaustively treated considering the ground to be covered. Part three treats of insecticides, preventives and machinery. The practical importance of the subject is everywhere kept in view, and the appropriate remedial measures are given after the different species are described, and their life-history given. The concluding chapters treat of predaceous insects, parasites, fungous diseases, farm practice to prevent insect attack, preventives, insecticides and machinery for spraying and other uses. Prof. Smith is a practical entomologist of unusual ability, and has produced a most valuable work, and is to be congratulated on the result of his labor. The many illustrations are an interesting feature and will be most useful. The book well covers the field of which it treats, and we can heartily commend it to all entomologists.—H. S.

INDEX TO THE PRECEDING LITERATURE.

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Doings of Societies.

PHILADELPHIA, October 13, 1896.

A stated meeting of the Feldman Collecting Social was held at the residence of Mr. H. W. Wenzel, 1509 S. 13th Street. Members present: Messrs. Bland, H. W. Wenzel, Castle, Fox, Boerner, Johnson, Schmitz, A. Hoyer and E. Wenzel. Visitor: Mr. Edward A Klages, of Crafton, Pa. Meeting called to order at 8.55 P.M., Mr. Bland presiding.

Mr. Wenzel spoke of an old and rare tree at Germantown which is shortly to give way to the woodman's axe. The tree is a species of the pecan-nut, and owes its origin to a seed brought to Germantown nearly a century ago by the well-known botanist, Nuttall. A fund was subscribed to by lovers of botany in Philadelphia, especially those residing in the district of Germantown, and Nuttall was sent to what was then Arkansas Territory with instructions to collect specimens of plants, seeds and flowers that grew in that section. Mr. Wenzel thought that this must have been the trip on which Nuttall collected the type specimen of *Lamprohiza reticulata* which Say described in 1828. LeConte's paper says: "Described from a unique specimen collected by Mr. Nuttall in Arkansaw." Continuing, Mr. Wenzel mentioned that on September 20th, while in company with Albert and Frank Hoyer at Palmyra, N. J., he had examined a field of asparagus, looking for *Crioceris 12-punctatus*, but not a specimen could be found. After entering a small wood, however, along one side of the asparagus field on a small growth of huckleberry the *Crioceris* was found in great numbers, the query was made by Mr. Johnson whether it was probable that the specimens were going to hibernate in this place. Mr. Hoyer promised to further investigate in order to ascertain if such was the case. On the same date *Cercopeus chrysorhœus* was taken under split chestnut wood laid out to dry.

Mr. Wenzel also mentioned the capture of *Pyractomena ecostata* and *Photuris frontalis* at Anglesea, N. J., on July 11th.

Mr. Johnson exhibited a number of Diptera which had been given him by Prof. Smith to be determined for one of his students who had captured them at Lakewood, N. J. He called attention to the following species: *Tabanus fulvulus*, *T. sagax*, *T. melanocerus*, *Therioplestes cinctus* and *Exoprosopa emarginata*.

Mr. Klages favored the members with an interesting account of some experiences in breeding Coleoptera, showing that considerable work of interest can be accomplished in this manner. On one of his trips he noticed a tree under which a party of campers had built a fire, the charred condition of which caused him to pass it by as an unlikely abode of insects. Somewhat over a year later, however, in passing the same tree he noticed a number of newly-made holes from which a species of *Scolytus* had evidently emerged; he then concluded to take some of the

wood home for breeding purposes; the reward was a number of *Scolytus muticus*. Last April his brother and himself cut down the entire tree and removed it to his breeding room, shortly thereafter these beetles came out in swarms, as many as 2500 coming out in a day, when about 1000 more came out he concluded he had enough for all practical purposes, so proceeded to destroy the rest, as they showed a disposition to get out in the open air and finding no other way would even attempt to bore through the window sashes. From this same wood he also bred the following: *Læmophlæus*, several species, *Rhizophagus minutus;* Monotomidæ, several species; *Agrilus*, two species; *Elasmocerus terminatus*, *Cymatodera undulata*, *Phyllobænus dislocatus*, *Cymatodera undulata*, *Phyllobænus dislocatus*, *Chariessa pilosa*, *C. pilosa* var. *onusta*, *Orthopleura damicornis*, *Xylotrechus colonus*, *Neoclytus erythrocephalus*, *Euderces picipes*, *Liopus alpha.* The speaker stated that the species of this tree was unknown to him, but there was another of the same kind in the vicinity, from which he intends to have it determined. Continuing, Mr. Klages reported the finding of several specimens of *Obrium rubidum* on the locust tree; this tree was also cut down to find if the insect fed upon the same and he expected good results from this experiment also but was disappointed, as he succeeded in breeding but one specimen; this, however, proved to his satisfaction that the insect fed upon this tree.

In connection with Mr. Klages remarks on *O. rubidum* Mr. Wenzel said that he knew of only a single specimen collected in this neighborhood and that collected by himself on oak, the specimen now being in Dr. Horn's collection.

No further business being presented the meeting adjourned to the annex at 10.10 P.M.

THEO. H. SCHMITZ, *Secretary.*

NEWARK ENTOMOLOGICAL SOCIETY.—A special meeting was held at the residence of Mr. A. J. Weidt, September 27th, six members and several visitors present. A series of special meetings at the houses of members in addition to the regular meetings of the Society was decided upon.

Mr. Seib exhibited a specimen of *Limenitis arthemis*, taken in Jersey City. Mr. Weidt showed a specimen of *Utethesia bella*, the upper wings white instead of yellow. A paper by Mr.

Brehme was read, containing a report of collections made in different States. In the discussion the members reported the season in New Jersey as good for Lepidoptera excepting *Catocala*, the species of which were very rare.

An annex after the meeting was devoted to music and refreshments.

The Entomological Section

ACADEMY OF NATURAL SCIENCES, PHILADELPHIA.

PROCEEDINGS OF MEETINGS.

SEPTEMBER 24, 1896.

A regular stated meeting of the Entomological Section of the Academy of Natural Sciences was held in the Hall, S. W. cor. Nineteenth and Race Streets, this evening, Mr. E. T. Cresson in the chair. Members present: Fox, Calvert, Johnson, Skinner, Ridings, G. B. Cresson, Wenzel, Liebeck, Dr. Griffith. Associates: Reinick, Castle, Boerner, Kemp, Westcott. Visitors: H. Hornig and T. H. Schmitz. A fine case showing the life-history of the Tussock moth, *Orgyia leucostigma*, was presented to the cabinet by Mr. Hornig.

Dr. Calvert gave a brief account of the entomological results of his visit to Europe during the past fourteen months, stating that the chief object of his journey had been to spend a year in study at German universities and incidentally to see as much of Europe as time would allow, including, of course, the entomological collections. The speaker had consequently spent the Winter semester 1895–96 at Berlin, and the Summer semester 1896 at Jena. Previous to reaching Berlin he had visited the British Museum, Oxford, Cambridge, the private collections of Mr. McLachlan in London, Baron de Selys-Longchamps at Liege, Belgium, and M. René Martin at Le Blanc, France, the Musées Zoologiques at Brussels and at Paris. In the holidays between the two semesters he had visited the Museums at Prague, Vienna, Trieste, Bologna, Florence (together with the rooms of the Italian Entomological Society), Naples, Genoa, Turin, Milan, Munich and Halle. After leaving Jena, on his return to America, in addition to revisiting some of the above-mentioned, he had also seen the entomological collection at Leyden. The speaker

referred to the uniform courtesies which he had received, and made especial mention of the freedom accorded to him at the Royal Museum in Berlin during a residence of five months in that city. There also he had attended meetings of the Deutsche and Berliner Entomological Societies. The speaker purposely refrained from repeating details, regarding the museums visited, which have already appeared, or will hereafter appear, in the present volume of ENTOMOLOGICAL NEWS.

Mr. Johnson gave an interesting account of his trip abroad during the Summer, especially in relation to the museum collections of insects. Mr. Reinick exhibited specimens of *Xenorhiphis brendeli* taken on a window at the Wagner Institute, Philadelphia, only five specimens being thus far known. Also *Ischalia costata*, which is very rare and not before taken east of Westmoreland County, Pa. The specimen exhibited was taken in Fairmount Park. *Pleurophorus cæsus* was caught in the lower part of Philadelphia for the first time. The speaker also mentioned a trip to the Orange Mountains of New Jersey, and the locality was praised as a good one. A large collection of material taken at the electric lights at Woodbury, N. J., was shown. Many rare species were found among the common mass of material. *Cicindela lepida* was reported by the same gentleman from Clementon, N. J. Mr. Liebeck said it had also been taken at Jamesburg, N. J., and in parts of the West. Mr. Wenzel made the statement that when the species was found away from the sea-shore that such localities were sandy and that the sea had once covered over such places. Mr. Laurent exhibited a fine collection of Coleoptera made during three weeks in April in Georgia and Florida. Dr. Griffith spoke of collection made by himself and Mr. Johnson in the Potomac River valley. The locality was said to be a fine one and was described in detail. The collections made will be exhibited later.

Dr. HENRY SKINNER, *Recorder*.

The following papers were read and accepted by the Committee for publication in ENTOMOLOGICAL NEWS:

A NEW SPECIES OF RHODODIPSA.

By JOHN B. SMITH, Sc.D.

Rhododipsa masoni n. sp.—Ground color varying from deep wine-red or crimson, to almost blackish, the latter tinge being added by an overlaying

of black scales. The head and thorax are yellow, with a rather dull orange tint, and the abdomen is blackish, except at the tip, where it is tufted with the same yellow hair that is found on the thorax. The primaries have the median lines fairly well defined by white or yellowish scales, differing much, however, in distinctness. In all cases they are more or less crenulated, but sometimes the lines are quite broad and distinct, while at other times little, except a series of venular dots can be observed. The basal line is wanting, or indicated only by a pale dot on the costa. The t. a. line is quite distant from base, as a whole with a rather even outcurve; the prominent teeth of the line being directed inwardly. The t. p. line is usually close to the t. a. line, narrowing the median space, and in its general course it is slightly and rather evenly bisinuate. In this case the teeth of the line are directed outwardly. There is an indefinite, pale s. t. shade, carrying a reddish s. t. line, and at the base of the fringes is a blackish shading, sometimes broken up into spots. The ordinary spots are very vaguely indicated. The orbicular is generally of quite good size and yellowish in color, but without defining lines. The reniform may be entirely absent, or may be indicated by paler scales. The secondaries are black, the fringes yellowish or red tinged. On the underside the disc of both wings is black, and towards the margin they all become tinged with bright red; most distinctly so toward the apex. The armature of the anterior tibia consists of a series of three outer and one long inner claw, the tibia itself being distinctly abbreviated. Expands 1 inch; 25 mm.

Hab.—Utah, California and Colorado.

The insect resembles the Texan *volupia*, differing from it most prominently by the black hind wings and by the tendency to very much darker fore wings. I have no definite locality for the Utah specimens. The California specimens were, I believe, taken in the Yellowstone. One of the Colorado specimens I have had in my collection for several years, perhaps one of the specimens taken by Mr. Bruce in 1888. Mr. Bruce sent me additional specimens a short time ago, with the information that it was collected in some numbers, by Mr. T. J. Mason, on the flowers of *Rudbeckia*.

It is at Mr. Bruce's request that I name the species after Mr. Mason. It is rather curious that within the last year two red species with black underwings should have been discovered, the one resembling the Eastern *Alaria florida* and the other resembling *volupia*.

A SWARM OF BUTTERFLIES.—Ocean City, Md., Sept. 13.—About three o'clock to-day, during a northeasterly wind, the heavens became almost black with swarms of huge red-winged butterflies. They moved in a southerly direction. It was fully an hour before the last ones passed over.

Physocnemum violaceipenne n. s., **Copris gopheri, Spalacopsis filum** and **Ancylocera brevicornis.**

By JOHN HAMILTON, M.D.

Physocnemum violaceipenne.—Black, thorax bituberculate, elytra violaceous, without ivory lines. Head short, very finely scabro-punctate, a broad transverse frontal impression in front of the eyes, which are rounded and moderately coarsely granulated, a fine median line; antennæ about the length of the body, ciliate beneath, scape short, conical; thorax about as long as the width of the base or apex, sides of thorax strongly arcuate, much widest at middle, from which they are rounded to base and apex, a strongly elevated median line from near apex to base, a large obtuse tubercle on each side on the disc just behind the middle, very finely scabro-punctate and with dense minute hairs; elytra violaceous, surface rather even, densely finely scabro-punctate, a little more coarsely toward base, parallel, slightly compressed at the sides at middle, apex margined, roundly truncate, with the angles obtuse, sides vertical till one-fourth before apex and separated from the disc by a humeral carina, disc with two slightly elevated lines, parallel to each other and to the humeral carina extending from base to three-fourths to apex; underside rather sparsely punctate and pubescent. Length .45 inch.

Described from two examples without apparent sexual difference. Taken at Jeannette, Westmoreland County, Pennsylvania, by Mr. H. Klages.

Differs from *brevilineum* by the complete absence of ivory lines and the much finer, denser, scabro-punctuation of the elytra, also the thicker and more serrate joints of the antennæ. The color is closely like that seen on fracturing a piece of Prussian blue.

Copris gopheri Schwarz.

This is one of the several beetles taken in Florida in the underground habitation of the digging tortoise, *Polyphemus gopheri;* it may, however, be a question whether it is entirely subterranean in its breeding habits. I have recently examined three female examples sent to Rev. Jerome Schmitt among other things, from Sanfield, Fla. These flew into the house at night to the lights; they differed in no respect from such as were obtained by digging, except in being more highly polished and intensely black. Whether these had been bred with the tortoise and came forth in quest of another habitation of the same kind, or may have been bred elsewhere, is open to investigation.

Spalacopsis filum Duval.

By some inadvertence this name was converted into *linum* in the synopsis of the Lamiinæ (Tr. Am. Ent. Soc. xxiii, 145), and the error was not observed till after publication. In the same paper, on page 169, a similar error occurs, where *Ancylocera brevicornis* Casey is said to be the female of *Elytroleptus divisus;* it should have been the female of *Ancylocera bicolor* Oliv.

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A NEW SPECIES OF PHILANTHUS FROM NEW MEXICO.

By S. N. DUNNING, Hartford, Conn.

Philanthus psyche n. sp. ♀.—Length: body 9 mm.; of anterior wings 5 mm. Black, with white markings, inclined to yellowish on legs. Head subquadrate, slightly broader than high, densely and firmly punctate and covered with a short, sparse pubescence; clypeus, face and extension to emargination of eyes and small spot back of eyes white, except extension of color between the antennæ is inclined to lemon-yellow, clypeus rounded, and with four distinct teeth, the central incision longer and less distinct than others; ocelli in a triangle, first as large as last two combined; eyes emarginate, elongate oval, dark green; mandibles: first two-thirds white, last third black; scape: antennæ white at tip and below, above black, but white predominating; first joint of flagellum black, second black above and reddish brown below, larger at tip, remainder reddish brown, lighter below. Thorax black, with collar; four elongated spots on mesothorax near collar, tegulæ, tubercles, slightly curved mark back of same, scutellum, postscutellum, and two short lines on metathorax white, covered with short, sparse, whitish hair, closely and finely punctate; a slight cavity between markings on metathorax, also a larger cavity on posterior angle. Abdomen above more coarsely punctate than thorax, faint indications of pubescence, black with a large whitish band on segments 1–5, growing smaller towards tip, band on first segment consists of two semi-circles, curving towards tip and joined by a straight line on posterior side; band on second segment curved much as in first, but white is extended, so that instead of being in semi-circles there are two black spots in midst of white, but near posterior margin of the segment; third band consists of two rounded spots joined by a straight line; fourth and fifth similar, but fainter; last segment bronzed, edged with rufous, more coarsely and sparsely punctate, slightly emarginate; ventrals sparsely and about as coarsely punctate as last segment above, a faint tinge of rufous on posterior edge second segment; anterior coxæ black, trochanters white tipped inside, rest black, first half of femora black, rest whitish; tibia yellow, with elongated black spot inside; tarsi yellowish, inclined to rufous and armed with a series of long spines, longest in the middle; first joint long as second and third combined; middle coxæ white tipped out-

side; trochanters white tipped inside; femora: first half black, rest whitish, slightly spined and with black spot inside; tarsi inclined to rufous and much less strongly spined than in first pair; posterior coxæ white tipped outside; trochanters white tipped inside, femora almost all black; tibiæ light yellow rufous, more strongly spined than middle pair, black spot inside; spines on tarsi almost disappearing. Wings hyaline, with no tinge of dusk; marginal cell almost as long as first and second submarginal and not appendiculate; stigma not interrupted by transparent spot; second submarginal receiving recurrent nervure at its center, third receiving recurrent at its base; submedian cell posterior wings just perceptibly longer than median on externo-medial nervure.

One specimen, Las Cruces, New Mex. (Ckll. 4893).

Allied to *P. politus* Say, but differs in face much narrower, smaller and more slender build, coloring much more extended and prominent, sculpture metathorax, wings being transparent, and in submedian cell of posterior wings being less than one-half as much longer than median on extreme medial cell.

I am indebted to Mr. Theo. D. A. Cockerell for this species.

OBITUARY.

W. TIEF, Dipterist, Professor in Villsch, Carinthia.

F. A. A. SKUSE, entomologist at the Australian Museum.

ERRATA.

Insert the following on page 8, vol. vii, in article by Mr. W. Schaus:

Bolina heliothoides Gn., spec. gen., Noct. iii, 68.

The ♀ of *Melipotis ochrodes* Gn.

Hypocala filicornis Gn., spec. gen., Noct. iii, 76.

A synonym of *H. andremona* Cr.

ENTOMOLOGICAL NEWS for October was mailed October 1, 1896.